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Resource partitioning in house lizard: An observation

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ABSTRACT

The present study reveals that the two sympathetic house lizards, *Hemiductylus frenatus* Schlegel, 1836 and *Hemidactylus brookii* Gray, 1845 inhabiting in the same room at Midnapur, West Bengal, India have adapted to maintain distinct ecological micro-niches to minimize competition between them.

Introduction

Ecological theory shows that interspecific competition will be less likely to result in competitive exclusion if it is weaker than intraspecific competition (Chesson 2000). Resource partitioning can result in similar way by consuming slightly different forms of a limiting resource or using the same limiting resource at a different place or time, individuals of different species compete less with one another (interspecific competition) than individuals of the same species (intraspecific competition). Species, therefore, limit their own population growth more than they limit that of potential competitors, and resource partitioning acts to promote the long-term coexistence of competing species. Other theories have been put forward that attempt to explain the coexistence of large numbers of species in local communities, and assessing their importance relative to resource partitioning is likely to be an active area of research for years to come to prove it. There is no doubt, however, that mechanisms reducing interspecific relative to intraspecific competition act to promote coexistence, and resource partitioning can achieve this. The present findings on two sympatric species of house lizards, *Hemiductylus frenatus* Schlegel, 1836 and *Hemidactylus brookii* Gray, 1845 are in favour of the hypothesis and thus warrant to report as a case study.

Materials and Methods

The two house lizards, *Hemiductylu sfrenatus* Schlegel, 1836 and *Hemidactylus brookii* Gray, 1845 are commonly seen in the author's room during night times while the room was illuminated by a 40 wt tube light. These lizards depend on the same food and mostly mosquitoes. Observation on the foraging sites in respect to these two lizard species ware mate at regular intervals, mostly during first quarter of the night time. A mosquito repellent was used in the room everyday and as a result some

mosquito individual drops down the floor of the room while some other ware seen on the wall of the room in resting posture.

Results and Discussion

Hemiductylus frenatus ware seen to capture the mosquitoes occurring on the wall of the room while *Hemidactylus brookii* ware confined to the floor of the room to have their foods (Fig:1 & 2). These sympatric lizards species are adopted to use the similar resources but in different way to minimize the competition but to ensure coexistence and survival. Niche seperation increases the pattern of resource exploitation by diverse communities for their better survibility (Finke & Snyder, 2008; Schoener, 1974). In the present observation similar pattern of micronitche partitioning were noticed for the said two species. Exactly similar pattern of adaptive evolution were observed for Darwin's Finches (Grant, 1986). Population density is the important cause to separate the population from each other (Griffin *et al*., 2008) for easy foraging and survivability in nature.

Figure 1: *H. brookii*

Conclusion

Resource partitioning strategy ensuring smooth and stress less survival of *Hemiductylus frenatus* and *Hemidactylus brookii* inhabiting the same room.

Figure 2: *H. frenatus*

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